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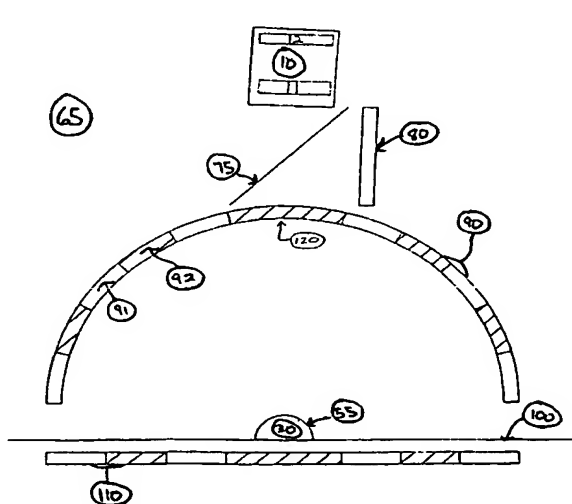
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(54) Title: PATTERNED ILLUMINATION METHOD AND APPARATUS FOR MACHINE VISION SYSTEMS



(57) Abstract: This application relates to an apparatus and method for providing patterned illumination fields for use within process control and article inspection applications. More specifically, it pertains to the use of patterned illuminators to enable visual surface inspection of polished objects such as ball bearings. The use of patterned illuminators properly disposed in relation to a polished part under inspection allows small surface imperfections such as scratches and pits to become visible against the normal surface background. The use of carefully engineered illuminators facilitates advantageous defect-site scattering from generally dark field sources. The patterned nature of the illuminators defined by this invention allows the complete surface of three-dimensional parts to be effectively highlighted using dark field illumination fields.

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